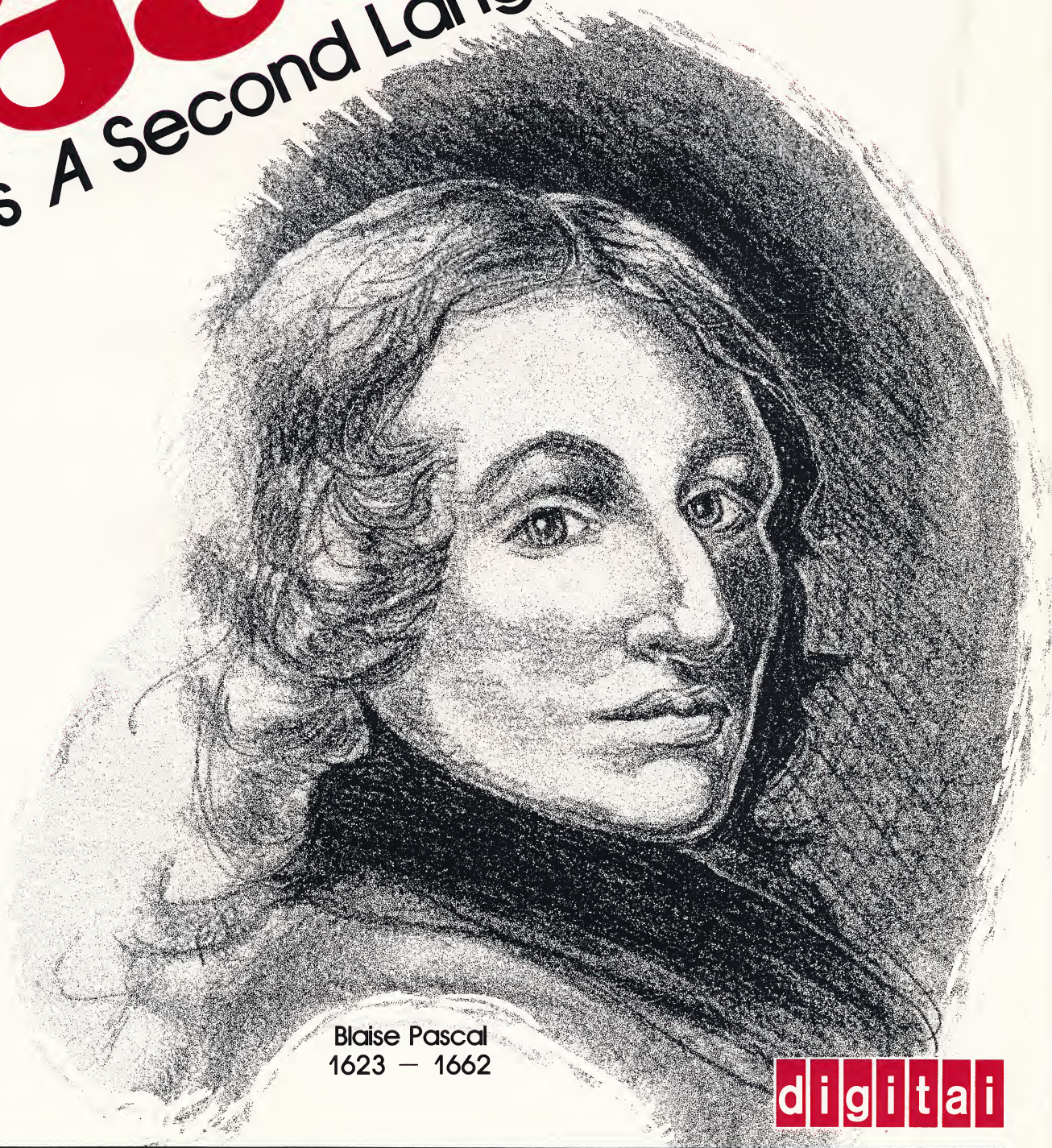


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pascal

As A Second Language



Blaise Pascal
1623 — 1662

digital

Technical Seminars for Computer Professionals

WASHINGTON, D.C.
January 27 - 29, 1981

SAN FRANCISCO
February 25 - 27, 1981

LOS ANGELES
February 23 - 25, 1981

MINNEAPOLIS
March 23 - 25, 1981

PASCAL as a

Are you looking for a new development language because you are having problems implementing modern structured programming techniques?

Are your programmers asking for a more modern language to help them do their job better?

Is it time to invest in your programmers' future by training them in a modern structured language?

Are the costs of your software maintenance over budget by a factor of 2 or 3 or more?

... Or do you just want a good, short but intensive, course on Pascal?

If the answer is YES to any of the above questions, Digital's 2-1/2-day seminar on Pascal will be of interest to you.

excellent implementations have promoted Pascal's popularity among programmers and project leaders alike.

Pascal aids project leaders in cutting costs of program development and maintenance by allowing them to develop a clear-cut framework of programming standards. A recent *BusinessWeek* report cites one claim that programming in a structured language such as Pascal "can make programming as much as 10 times faster and can cut the cost of software by 30%-75%."

As a leader in the implementation of Pascal in the minicomputer field, Digital presents an opportunity for you to learn Pascal and the benefits it can bring to your environment.

- Requires you to write several programming exercises demonstrating the key features of Pascal
- Shows you how Pascal is positioned in the computer language spectrum

Benefits

- You will make a 2-1/2-day intensive investment in learning. When you leave you'll be able to start programming in Pascal.
- You will leave with a thorough understanding of Pascal as a language.
- You will be able to take algorithms written in another language and start re-coding them in Pascal.
- You will leave with a personal set of course materials that will be a convenient and valuable reference when back on the job.
- You will learn how Pascal can facilitate the process of establishing programming standards for project development.

Why Pascal?

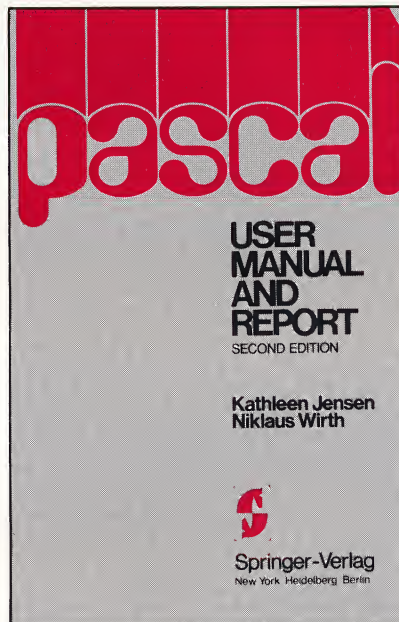
The questions have been asked, "Why does the computer community need another language? And even if it does, why Pascal?"

PASCAL

Today's Language for Structured Programming

The development of any computer program goes through various stages of abstraction and refinement. Pascal was created to provide a means of expressing these abstractions more easily. With the current emphasis on structured methodology and structured programming, Pascal is an ideal language by which to standardize your programming methods.

The language constructs of Pascal inherently reflect program structures which otherwise would have to be hand-coded. By providing a facility for clearly expressing programming solutions, Pascal promotes self-documentation, thereby aiding program readability and maintainability. At the compiler level, Pascal's design provides for efficient implementation, and excellent error detection and diagnostic capability. The richness of the language combined with a growing number of



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Features

This seminar:

- Gives you an insight into why Pascal was developed
- Teaches you all the elements of "standard" Pascal
 - Data structures
 - Control statements
 - Structure of a Pascal program
- Exposes you to the advantages of using Pascal
 - Inherent documentation features
 - Ease of maintainability
 - Transportability of programs between systems

Who Should Attend

- *Professional Programmers* who want to be up-to-date on one of the most popular structured languages, Pascal
 - *Software Project Leaders* who are considering using Pascal for a project
 - *Software Product Development Managers* who are planning to use Pascal as a development language
 - *Assembly Language Programmers* who want to learn a higher level language
 - *Microprocessor System Designers* who need an understanding of "standard" Pascal on which to base investigations into variations and extensions
 - *Anyone* who is responsible for the productivity of programmers
- Programming experience is a prerequisite for this seminar, but no knowledge of Pascal is assumed. Several programming exercises are included which will provide attendees with experience in writing Pascal. Attendees will be given time during the seminar to analyze assignments and derive solutions. There will also be two short evening assignments.

Second Language

DALLAS
March 25 - 27, 1981

NEW YORK
April 29 - May 1, 1981

BOSTON
April 27 - 29, 1981

ATLANTA
May 20 - 22, 1981

Course Materials

A copy of a leading textbook in Pascal, "Pascal User Manual and Report," by K. Jensen and N. Wirth, Springer Verlag, NY, 1974.

A set of Seminar Notes for future reference.

A set of handouts of debugged Pascal programs that are valid solutions to the seminar exercises.

Faculty

Kathleen Jensen and Gil Roeder will be your team of instructors during the Pascal seminar.

Kathleen worked for Niklaus Wirth at The Swiss Federal Institute of Technology (ETH) in Zurich for three years during the infancy of the Pascal language. While at ETH, she taught Pascal programming and co-authored the *Pascal User Manual and Report*. She also contributed to various research projects including the Pascal "P Compiler." Currently, Kathleen is employed by Educational Services within Digital Equipment Corporation where she is involved in new project development.

Gil is president of Retrieval Technology, a consulting and training firm located in Chelmsford, MA. Gil draws on an extensive background of application development and system design in several diverse industries including newspapers and publishing, energy, and manufacturing. In addition to his applications experience, Gil has been involved in intensive system development in the areas of communications and database management systems.

Gil's current interests include the design of database-oriented business systems and the integration of database management within organizations. He has used Pascal extensively in the development of these applications.

REGISTRATION & CONFIRMATION

To register for Digital's seminar, fill out the registration form or call the Registrar at (617)493-2858. After your reservation has been received, you will receive a confirmation letter that will include time schedules, hotel and meeting room locations, and other details. If you have additional questions, please call (617)493-2858.

Early registration is recommended. However, enrollment will remain open until two weeks before the starting date of the seminar.

FEES

The full registration fee of \$545.00 per attendee is payable in advance and includes the cost of workbooks, meeting materials, and lunch.

CANCELLATION POLICY

Confirmed reservations cancelled less than 5 working days before the meeting are subject to a 50% cancellation fee. Registrants holding confirmed reservations who fail to attend will be billed for the entire fee, unless they contact Digital's Registrar prior to the meeting to cancel.

TAX DEDUCTION OF EXPENSES

Treasury Regulation 1.162-5 allows an income tax deduction for expenses of education (registration fees, travel, meals, lodging) undertaken to maintain and improve professional skills.

ON-SITE TRAINING

If you have a number of people to train, it becomes cost effective to bring a seminar to your own facility. Bringing a seminar in-company allows our faculty to customize the course content to meet your company's specific needs. We will be pleased to discuss this capability with you.

SEMINAR OUTLINE

- I. Introduction to Pascal
 - A. History
 - B. Why Pascal?
 - C. Program Reading
- II. Basic Concepts of Pascal
 - A. The Vocabulary of Pascal
 - Nomenclature
 - Symbols
 - Delimiters
 - Comments
 - Identifiers
 - B. Standard Data Types
 - C. Operators
 - D. Constants, Variables, and Expressions
 - E. Standard Identifiers
- III. Programming and Control Flow
 - A. Structure of a Pascal Program
 - B. Declarations
 - C. Statements
 - Simple
 - Conditional
 - Compound
 - Repetitive
- IV. Data Types
 - A. Scalar
 - B. Subrange
 - C. Structured
 - Arrays
 - Records
 - Sets
 - Files
 - D. User-Defined Data Types
- V. Procedures and Functions
 - A. Parameters
 - B. Scope
 - C. Global vs. Local Variables
 - D. Standard Procedures and Functions
- VI. Advanced Concepts
 - A. Dynamic Variables
 - B. Record Variants
 - C. Recursion
- VII. Putting It All Together
 - A. Again . . . Why Pascal?
 - B. Differences between Pascal and Other Programming Languages
 - C. Discussion
 - Extensions to Pascal
 - Status of ANSI standardization

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ACCOMMODATIONS

A limited number of rooms are reserved at the hotels listed below. You are urged to contact the hotel directly as soon as possible because the rooms can be held for only a limited time prior to the seminar. Mention that you are attending Digital's seminar. Room reservations, meals (except lunch), and hotel charges are the responsibility of the attendee. Call the following numbers to place your reservations.

WASHINGTON, D.C.
Ramada Inn
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PASCAL as a Second Language Registration Form

YES! Please register me in the following seminar:

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